

GROWTH DEVELOPMENT BIOTECHNOLOGY - II

Semester - V

Time Allowed : 3 Hours]

[Maximum Marks : 35

Note : Attempt *four* questions selecting *two* question each from Sections A and B. The Section C is compulsory

Section - A

1. Discuss in detail physiological effects of auxins and cytokinins. 6
2. Write a note on physiological role(s) and mechanism of action of phytochrome. 6
3. Discuss the role of hormones in seed dormancy, seed germination and fruit ripening. 6
4. Write notes on the following :
 - (i) Vernalization
 - (ii) Senescence
 - (iii) Nastic movements in plants. 2+2+2

Section - B

5. Discuss in detail methodology and applications of Southern Blotting. 6
6. Discuss in detail vector mediated method gene transfer in plants. 6
7. Describe methodology and applications of embryo culture. 6
8. Discuss the role of biotechnology in plant breeding. 6

Section - C

9. Attempt *all* parts :
 - (i) Name synthetic auxins.
 - (ii) Name the physiological role(s) of cryptochrome.
 - (iii) What are advantages of seed dormancy ?
 - (iv) How senescence and abscission are related ?
 - (v) Which one and why is bigger in size ? Genomic library or cDNA library ?
 - (vi) Define gene mapping.
 - (vii) Name the method of direct gene transfer in plants.
 - (viii) What is meant by micropropagation ?
 - (ix) Name the vectors used in recombinant DNA technology.
 - (x) Define molecular farming.
 - (xi) Define the significance of *Taq* polymerase. 1×11=11